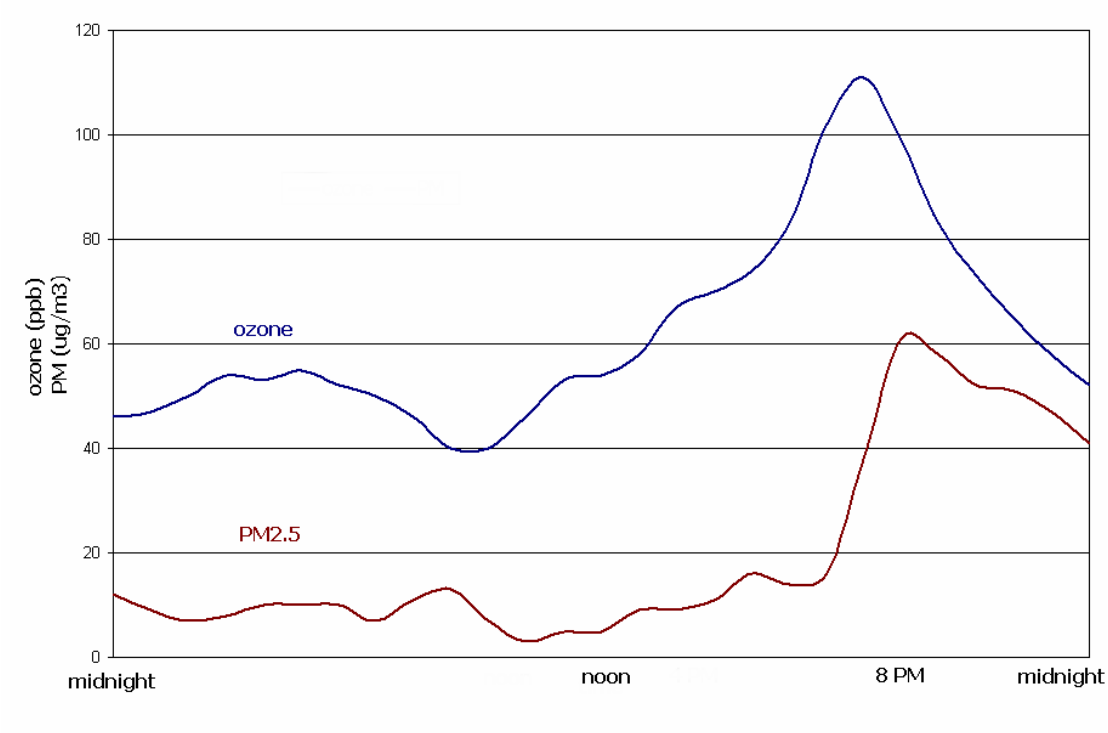
Air Quality Event Summary

July 26, 2005

New Hampshire experienced its second official day of unhealthy air quality for the year on July 26th as an 8-hour ozone exceedance of 86 ug/m^3 was monitored at Miller State Park. The 8-hour ozone standard is 85 ug/m^3. Temperatures over 90 degrees and clear skies helped in creating elevated levels of ozone over much of southern and central New England, though shifting winds throughout the day prevented widespread exceedances. The highest ozone levels in the state occurred late in the evening, with the exceedance at Miller being monitored at 8 PM. Particle pollution ($PM_{2.5}$) concentrations were also elevated and showed a pronounced spike late in the evening as well. The levels of both pollutants throughout the entire day at Miller can be seen in the chart below.

Miller State Park Ozone and $PM_{2.5}$ for July 26, 2005



The table below shows the highest ozone and particle pollution ($PM_{2.5}$) concentrations for the July 26th event. The one-hour maximum $PM_{2.5}$ concentration of 61 ug/m^3 at Miller is one of the highest recorded in the state, apart from fire events. Further below are afternoon streamlines for the day, along with maximum 8-hour ozone levels. Not unlike the June 27th event at Nashua (the first ozone episode of 2005), this was a localized event for New Hampshire, though elevated ozone and particulate matter covered much of the southern part of the state.

The streamline map is for the evening of July 26th, and clearly shows a southwest wind, bringing pollutants up from NYC and points further south. However, in the afternoon winds were more westerly and there was no contribution of precursors from the Baltimore-Washington area, and only a minor influence from NYC. Later in the afternoon the winds lined up to produce a concentrated ozone plume which made its way up to New Hampshire, though mostly at a higher elevation. Later in the evening, winds became more southerly, bringing in cleaner ocean air and reducing pollution levels. The few hours of a direct flow up the Northeast Corridor likely produced the dramatic ozone and $PM_{2.5}$ concentration peaks seen at Miller late in the day on the 26th.

Maximum Ozone and $PM_{2.5}$ Concentrations
July 26, 2005

Ozone

monitor	1-hr avg. max ppb	8-hr avg. max ppb
Manchester	81	66
Keene	88	63
Rye	84	71
Claremont	53	44
Nashua	93	82
Concord	82	65
Portsmouth	79	66
Miller	111	86
Laconia	76	55
Mt Washington	68	62
Lebanon	70	53
Camp Dodge	54	37
Pittsburg	45	26

1-hr exceedance is> 124ppb
8-hr exceedance is > 84 ppb

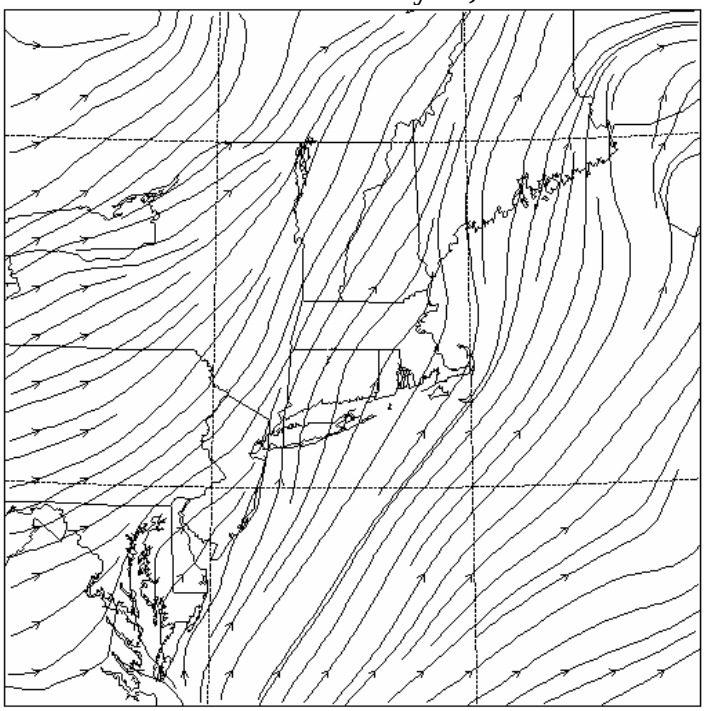
Particle Pollution ($PM_{2.5}$)

monitor	1-hr avg. max ug3	24-hr avg max ug3
Manchester	44	17
Portsmouth	34	21
Miller	61	17
Lebanon	25	14
Camp Dodge	16	6

no 1-hour standard

24-hr exceedance is > 65.5 ug/m3

Streamlines for July 26, 2005



Maximum 8-Hour Ozone for July 26, 2005